

**$R_{AA}$  of  $\pi^0$  and  $\gamma$  in d+Au collisions at 200 GeV by PHENIX experiment**

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Previous results [1,2] indicated that high  $p_T$  particle suppression in Au+Au interactions is a final state effect, since  $R_{dA}$  ratios were compatible with unity, albeit within large experimental errors. It is important to test the lack of cold matter effects to higher precision since the modification of structure functions themselves may be involved. Recent d+Au data taken in 2008 improve integrated luminosity of the 2003 data sample by more than a factor of twenty. The joint behavior of  $\pi^0$  and  $\gamma$  at higher  $p_T$  will shed new light on whether the initial (Au) state is modified. The current status of these analyses with the 2008 data set will be shown

**References**

- [1] S. S. Adler *et al.* [PHENIX Collaboration], Phys. Rev. Lett. **98**, 172302 (2007) [arXiv:nucl-ex/0610036].
- [2] D. Peressounko [PHENIX Collaboration], Nucl. Phys. A **783**, 577 (2007) [arXiv:hep-ex/0609037].